PCT09

#5

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          RAW SEQUENCE LISTING              DATE: 09/10/2001
          PATENT APPLICATION: US/09/914,001  TIME: 11:28:54

          Input Set : A:\Methyl1.app
          Output Set: N:\CRF3\09102001\I914001.raw
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   3 <110> APPLICANT: Wisconsin Alumni Research Foundation et al.
   4        Pioneer Hi-Bred, International Inc.
   5        Regents of The University of Minnesota
   6        Kaeppler, Shawn M.
   7        Springer, Nathan M.
   8        Muszynski, Michael G.
   9        Papa, Charles M.
  11 <120> TITLE OF INVENTION: Nucleic Acid and Amino Acid Sequences Encoding Class II
  12        DNA Methyltransferases
  14 <130> FILE REFERENCE: WIS4987P0051PCT
C--> 16 <140> CURRENT APPLICATION NUMBER: US/09/914,001
C--> 17 <141> CURRENT FILING DATE: 2001-08-20
  19 <160> NUMBER OF SEQ ID NOS: 90
  21 <170> SOFTWARE: PatentIn Ver. 2.1
  23 <210> SEQ ID NO: 1
  24 <211> LENGTH: 2736
  25 <212> TYPE: DNA
  26 <213> ORGANISM: Zea mays
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  40 acttgccgtt ggttcttccg agcagaggac acggttatca attctttggt gtccataagt 720
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  42 gtgcttgatt gcattatctc caaggtcaag atagtccatg ttgatccaaa tatggatcca 840
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103 actgaggtgc gaaatgagaa agccgatgag tttcttgccc tccttaagga atgggcagtt 1260
104 ctatgcaaaa aatatgtcca agatgtggat tcaaatttag caagctcaga ggatcaagcg 1320
105 gatgaagaca gccctcttga caaggacgaa tttgttgtag agaagcttgt cgggatatgt 1380
106 tatggtggca gtgacaggga aaatggcatc tattttaagg tccagtggga aggatacggc 1440
107 cctgaggagg atacatggga accgattgat aacttgagtg actgcccgca gaaaattaga 1500
108 gaatttgtac aagaagggca caaaagaaag attctcccac tgcctggtga tgttgatgtc 1560
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RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/914,001

DATE: 09/10/2001
TIME: 11:28:54

Input Set : A:\Methyl1.app
Output Set: N:\CRF3\09102001\I914001.raw

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109 atttgtggag gcccaccatg ccaaggtatc agtgggttta atcggtacag aaaccgtgat 1620
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111 ttgaagccca agtatgttct catggaaaat gtggtggaca tactcaaatt tgcggatggt 1740
112 tacctaggaa aatatgcttt gagctgcctt gttgctatga agtaccaagc gcggcttgga 1800
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125 ggcttccccg attactaccg attgtttggc ccgatcaagg agaagtacat tcaagtcggg 2580
126 aacgcagtgg ctgtccctgt tgcccgggca ctgggctact gtctggggca agcctacctg 2640
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132 <210> SEQ ID NO: 3
133 <211> LENGTH: 912
134 <212> TYPE: PRT
135 <213> ORGANISM: Zea mays
137 <400> SEQUENCE: 3

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144 Glu Glu Glu Val Gly Ala Ala Ala Ser Ser Ala Lys Arg Ser Arg Lys
145          35                  40                  45
147 Ala Ala Ser Ser Gly Lys Lys Pro Lys Ser Pro Pro Lys Gln Ala Lys
148      50                  55                  60
150 Pro Gly Lys Lys Lys Gly Asp Ala Glu Met Lys Glu Pro Val Glu Asp
151 65               70                  75                  80
153 Asp Val Cys Ala Glu Glu Pro Asp Glu Glu Glu Leu Ala Met Gly Glu
154              85                  90                  95
156 Glu Glu Ala Glu Glu Gln Ala Met Gln Glu Glu Val Val Ala Val Ala
157          100                 105                 110
159 Ala Gly Ser Pro Gly Lys Lys Arg Val Gly Arg Arg Asn Ala Ala Ala
160          115                 120                 125
162 Ala Ala Gly Asp His Glu Pro Glu Phe Ile Gly Ser Pro Val Ala Ala
163      130                 135                 140
165 Asp Glu Ala Arg Ser Asn Trp Pro Lys Arg Tyr Gly Arg Ser Thr Ala
166 145                 150                 155                 160
168 Ala Lys Lys Pro Asp Glu Glu Glu Glu Leu Lys Ala Arg Cys His Tyr
169              165                 170                 175
171 Arg Ser Ala Lys Val Asp Asn Val Val Tyr Cys Leu Gly Asp Asp Val
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Input Set : A:\Methyl1.app
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178     210             215             220
180 Phe Phe Arg Ala Glu Asp Thr Val Ile Asn Ser Leu Val Ser Ile Ser
181 225             230             235             240
183 Val Asp Gly His Lys His Asp Pro Arg Arg Val Phe Leu Ser Glu Glu
184             245             250             255
186 Lys Asn Asp Asn Val Leu Asp Cys Ile Ile Ser Lys Val Lys Ile Val
187         260             265             270
189 His Val Asp Pro Asn Met Asp Pro Lys Ala Lys Ala Gln Leu Ile Glu
190         275             280             285
192 Ser Cys Asp Leu Tyr Tyr Asp Met Ser Tyr Ser Val Ala Tyr Ser Thr
193     290             295             300
195 Phe Ala Asn Ile Ser Ser Glu Asn Gly Gln Ser Gly Ser Asp Thr Ala
196 305             310             315             320
198 Ser Gly Ile Ser Ser Asp Asp Val Asp Leu Glu Thr Ser Ser Ser Met
199         325             330             335
201 Pro Thr Arg Thr Ala Thr Leu Leu Asp Leu Tyr Ser Gly Cys Gly Gly
202         340             345             350
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205         355             360             365
207 Glu Thr Arg Trp Ala Val Asp Phe Asn Ser Phe Ala Cys Gln Ser Leu
208     370             375             380
210 Lys Tyr Asn His Pro Gln Thr Glu Val Arg Asn Glu Lys Ala Asp Glu
211 385             390             395             400
213 Phe Leu Ala Leu Leu Lys Glu Trp Ala Val Leu Cys Lys Lys Tyr Val
214             405             410             415
216 Gln Asp Val Asp Ser Asn Leu Ala Ser Ser Glu Asp Gln Ala Asp Glu
217         420             425             430
219 Asp Ser Pro Leu Asp Lys Asp Glu Phe Val Val Glu Lys Leu Val Gly
220         435             440             445
222 Ile Cys Tyr Gly Gly Ser Asp Arg Glu Asn Gly Ile Tyr Phe Lys Val
223     450             455             460
225 Gln Trp Glu Gly Tyr Gly Pro Glu Glu Asp Thr Trp Glu Pro Ile Asp
226 465             470             475             480
228 Asn Leu Ser Asp Cys Pro Gln Lys Ile Arg Glu Phe Val Gln Glu Gly
229             485             490             495
231 His Lys Arg Lys Ile Leu Pro Leu Pro Gly Asp Val Asp Val Ile Cys
232         500             505             510
234 Gly Gly Pro Pro Cys Gln Gly Ile Ser Gly Phe Asn Arg Tyr Arg Asn
235         515             520             525
237 Arg Asp Glu Pro Leu Lys Asp Glu Lys Asn Lys Gln Met Val Thr Phe
238     530             535             540
240 Met Asp Ile Val Ala Tyr Leu Lys Pro Lys Tyr Val Leu Met Glu Asn
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243 Val Val Asp Ile Leu Lys Phe Ala Asp Gly Tyr Leu Gly Lys Tyr Ala
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Input Set : A:\Methyl1.app
Output Set: N:\CRF3\09102001\I914001.raw

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250         595             600             605
252 Trp Gly Ala Leu Ser Ser Met Val Leu Pro Lys Tyr Pro Leu Pro Thr
253         610             615             620
255 Tyr Asp Val Val Val Arg Gly Gly Ala Pro Asn Ala Phe Ser Gln Cys
256 625             630             635             640
258 Met Val Ala Tyr Asp Glu Thr Gln Lys Pro Ser Leu Lys Lys Ala Leu
259         645             650             655
261 Leu Leu Gly Asp Ala Ile Ser Asp Leu Pro Lys Val Gln Asn His Gln
262         660             665             670
264 Pro Asn Asp Val Met Glu Tyr Gly Gly Ser Pro Lys Thr Glu Phe Gln
265         675             680             685
267 Arg Tyr Ile Arg Leu Ser Arg Lys Asp Met Leu Asp Trp Ser Phe Gly
268     690             695             700
270 Glu Gly Ala Gly Pro Asp Glu Gly Lys Leu Leu Asp His Gln Pro Leu
271 705             710             715             720
273 Arg Leu Asn Asn Asp Asp Tyr Glu Arg Val Gln Gln Ile Pro Val Lys
274         725             730             735
276 Lys Gly Ala Asn Phe Arg Asp Leu Lys Gly Val Arg Val Gly Ala Asn
277         740             745             750
279 Asn Ile Val Glu Trp Asp Pro Glu Ile Glu Arg Val Lys Leu Ser Ser
280         755             760             765
282 Gly Lys Pro Leu Val Pro Asp Tyr Ala Met Ser Phe Ile Lys Gly Lys
283         770             775             780
285 Ser Leu Lys Pro Phe Gly Arg Leu Trp Trp Asp Glu Thr Val Pro Thr
286 785             790             795             800
288 Val Val Thr Arg Ala Glu Pro His Asn Gln Val Ile Ile His Pro Thr
289         805             810             815
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292         820             825             830
294 Pro Asp Tyr Tyr Arg Leu Phe Gly Pro Ile Lys Glu Lys Tyr Ile Gln
295         835             840             845
297 Val Gly Asn Ala Val Ala Val Pro Val Ala Arg Ala Leu Gly Tyr Cys
298     850             855             860
300 Leu Gly Gln Ala Tyr Leu Gly Glu Ser Glu Gly Ser Asp Pro Leu Tyr
301 865             870             875             880
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Input Set : **A:\Methyl1.app**
Output Set: **N:\CRF3\09102001\I914001.raw**

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L:17 M:271 C: Current Filing Date differs, Replaced Current Filing Date